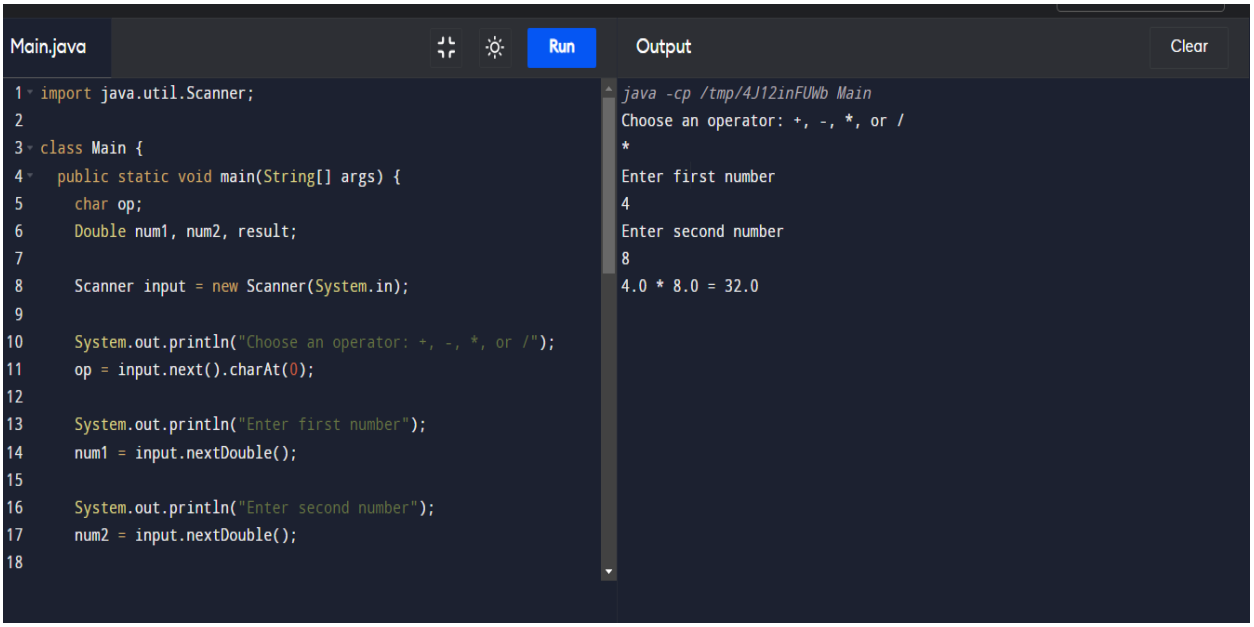
QUESTION 1 : SIMPLE COMPUTER APPLICATION :

```
import java.util.Scanner;


class Main {
  public static void main(String[] args) {
    char op;
    Double num1, num2, result;


    Scanner input = new Scanner(System.in);


    System.out.println("Choose an operator: +, -, *, or /");
    op = input.next().charAt(0);


    System.out.println("Enter first number");
    num1 = input.nextDouble();


    System.out.println("Enter second number");
    num2 = input.nextDouble();


    switch (op) {
      case '+':
        result = num1 + num2;
        System.out.println(num1 + " + " + num2 + " = " + result);
        break;
      case '-':
```

```
        result = num1 - num2;
        System.out.println(num1 + " - " + num2 + " = " + result);
        break;
      case '*':
        result = num1 * num2;
        System.out.println(num1 + " * " + num2 + " = " + result);
        break;
      case '/':
        result = num1 / num2;
        System.out.println(num1 + " / " + num2 + " = " + result);
        break;
      default:
        System.out.println("Invalid operator!");
        break;
    }

    input.close();
  }
}
```

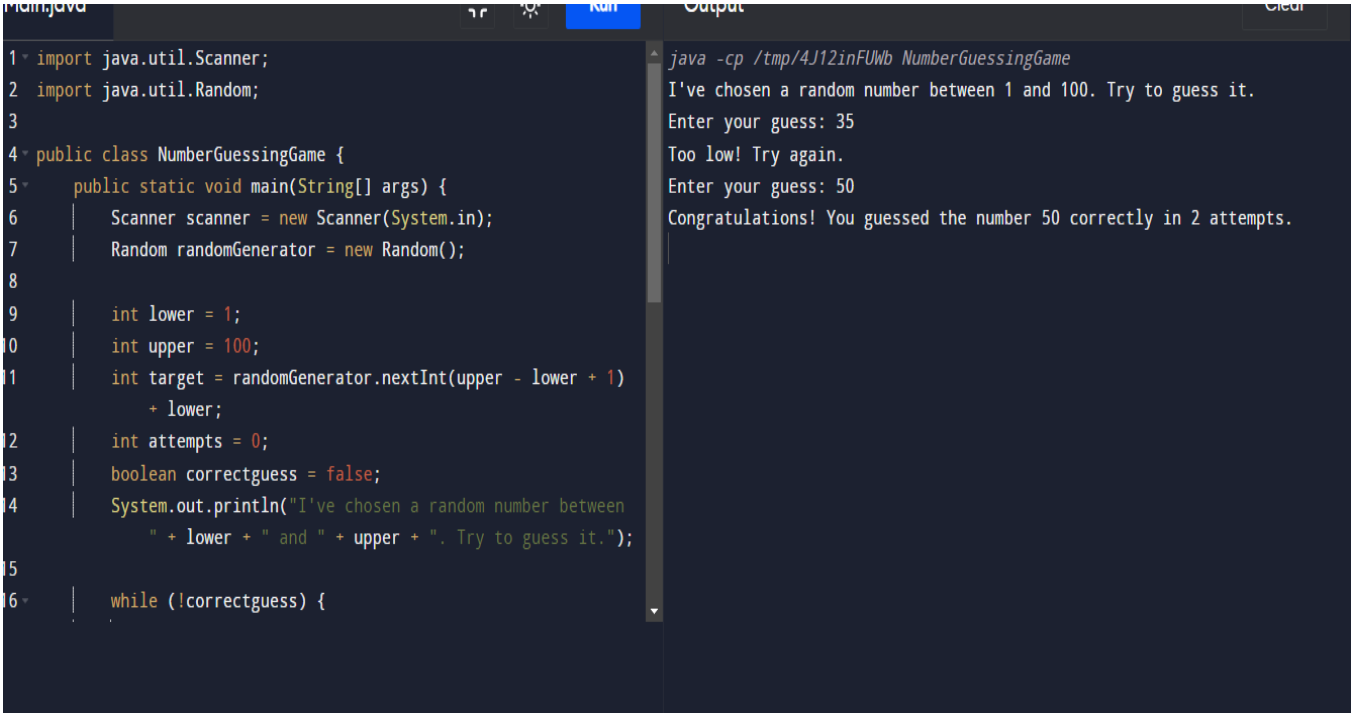


QUESTION 2 : NUMBER GUESSING GAME

```
import java.util.Scanner;

import java.util.Random;


public class NumberGuessingGame {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        Random randomGenerator = new Random();


        int lower = 1;

        int upper = 100;
```

```
        int target = randomGenerator.nextInt(upper - lower + 1) + lower;
        int attempts = 0;
        boolean correctguess = false;
        System.out.println("I've chosen a random number between " + lower + " and " + upper + ". Try to guess it.");


        while (!correctguess) {
            System.out.print("Enter your guess: ");
            int ug = scanner.nextInt();
            attempts++;


            if (ug < lower || ug > upper) {
                System.out.println("Please enter a number between " + lower + " and " + upper + ".");
            } else if (ug < target) {
                System.out.println("Too low! Try again.");
            } else if (ug > target) {
                System.out.println("Too high! Try again.");
            } else {
                correctguess = true;
                System.out.println("Congratulations! You guessed the number " + target + " correctly in " + attempts + " attempts.");
            }
        }


        scanner.close();
    }
```

}


Main.java
Run
Output
Clear
1 import java.util.Scanner;
2 import java.util.Random;
3
4 public class NumberGuessingGame {
5 public static void main(String[] args) {
6 Scanner scanner = new Scanner(System.in);
7 Random randomGenerator = new Random();
8
9 int lower = 1;
10 int upper = 100;
11 int target = randomGenerator.nextInt(upper - lower + 1)
+ lower;
12 int attempts = 0;
13 boolean correctguess = false;
14 System.out.println("I've chosen a random number between
" + lower + " and " + upper + ". Try to guess it.");
15
16 while (!correctguess) {
java -cp /tmp/4J12inFUWb NumberGuessingGame
I've chosen a random number between 1 and 100. Try to guess it.
Enter your guess: 35
Too low! Try again.
Enter your guess: 50
Congratulations! You guessed the number 50 correctly in 2 attempts.